

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A valve system for use with a variable head of fluid, the valve system comprising:

a first diaphragm;

means for controlling a position of the first diaphragm based on a fluid pressure associated with the variable head of a first fluid, the controlling means comprising a movable flexible member and a substantially rigid and curved ~~movable cage member mounted on the first diaphragm~~ that is adapted to prevent a back pressure from creating a localized distortion of the flexible member.

2. (Original) A valve system as claimed in Claim 1 wherein when the valve system is deployed the first diaphragm is located above the variable head of the first fluid.

3. (Previously Presented) A valve system as claimed in Claim 1, wherein the valve system is connected to a fluid supply line to the variable head of the first fluid such that the first diaphragm moves between an open position, wherein the first fluid is free to flow within the fluid supply line, and a closed position, wherein the first fluid is prevented from flowing within the fluid supply line.

4. (Previously Presented) A valve system as claimed in Claim 1, wherein the first diaphragm comprises a blocking means to assist the first diaphragm in moving to the closed position.

5. (Previously Presented) A valve system as claimed in Claim 1, wherein the controlling means comprises a compressible second fluid.

6. (Previously Presented) A valve system as claimed in Claim 5, wherein the compressible second fluid is contained within at least one tube connected at a first end to the flexible member of the controlling means and positioned so that when in use the second end of the at least one tube is located below the surface of the head of variable first fluid.

7. Canceled.

8. (Previously Presented) A valve system as claimed in Claim 6, wherein the flexible member comprises a diaphragm valve, and wherein the at least one tube is connected to the first diaphragm via the diaphragm valve.

9. (Original) A valve system as claimed in Claim 8 wherein the controlling means further comprises one or more chambers located between the diaphragm valve and the first diaphragm.

10. (Previously Presented) A valve system as claimed in Claim 9 wherein the first diaphragm comprises an aperture that provides a means for communicating a sample of fluid taken from the supply line to the one or more chambers.

11. (Previously Presented) A valve system as claimed in Claim 9, wherein when the diaphragm valve moves to a closed position a pressure build up in the one or more chambers causes the first diaphragm to move from the open position to the closed position.

12. (Previously Presented) A valve system as claimed in Claim 1, wherein the valve system further comprises an adjuster wherein the adjuster provides a means for varying the dependency of the position of the first diaphragm to the fluid pressure associated with the variable head of the first fluid.

13. Canceled.

14. (Previously Presented) A valve system as claimed in Claim 12, wherein the flexible member comprises a diaphragm valve, and wherein the adjuster comprises a means for varying the resistance required to activate the diaphragm valve.

15. (Original) A valve system as claimed in Claim 14 wherein the means for varying the resistance required to activate the diaphragm valve comprises a bias means and an adjustment screw wherein the position of the adjustment screw defines the resistance force applied by the bias means to the diaphragm valve.

16. (Previously Presented) A valve system as claimed in Claim 3, wherein the valve system further comprises an automatic cut off means so that in the event of mechanical failure the first diaphragm is moved to the closed position.

17. (Previously Presented) A valve system as claimed in Claim 16 wherein the automatic cut off means comprises one or more sections of absorbent material such that when the first fluid is incident on the absorbent material expansion occurs so as to cause the first diaphragm to move to the closed position.

18. (Previously Presented) A valve system as claimed in Claim 8, wherein the controlling means comprises a plunger that assists movement of the first diaphragm to the closed position.

19-26. Canceled.

27. (Previously Presented) A valve system as claimed in Claim 5, wherein the compressible second fluid is air.

28. Canceled.

29. (Previously Presented) The valve system as claimed in claim 1, wherein the flexible member comprises a diaphragm valve that is coupled to the fluid pressure associated with the variable head of a first fluid, wherein increasing fluid pressure causes the diaphragm valve to move, and further comprising a plunger coupled to the diaphragm valve, wherein movement of the diaphragm valve causes the plunger to close an inlet hole.

30. (Currently Amended) The valve system as claimed in claim 29, wherein the ~~movable cage substantially rigid and curved member~~ is positioned between the plunger and the diaphragm valve, and wherein the ~~movable cage substantially rigid and curved member~~ prevents deformation of the diaphragm valve due to a backpressure acting on the diaphragm valve through the plunger.